used for many years in biological laboratories for the preservation of small bits of plant and animal tissue, and lately employed by Dr. G. K. Noble of the American Museum of Natural History in New York for making vividly lifelike mountings of small snakes, lizards, and the like.—*A. E. B.*

Rock Island Project Completed

AN accompanying illustration shows the huge Rock Island Hydroelectric Project, completed, as seen from the air. It will be recalled that construction of this plant by Stone and Webster Engineering Corporation for the Puget Sound Power and Light Company, was described in our November, 1931, issue. The plant will have an ultimate capacity of 252,000 horsepower.

From this striking photograph may be more clearly visualized the manner in which the builders erected first one wing of the dam out to the island in the middle of the river and then the other wing.

This is the first great power plant to utilize part of the vast water power of the Columbia River. Plans now taking shape, however, contemplate its more complete harnessing before many more years pass.

Boric Acid Eliminates Electrical Fuse "Fireworks"

WHEN a fuse "blows out" in the household lighting circuit, father simply goes down into the cellar, screws a new one into the socket, and thinks nothing of it. When a fuse blows out on a high-voltage, high-current circuit in a power house or a factory, there is apt to be considerable sputtering, sparking, and spectacular "fireworks." Hitherto this violence had been attributed to the formation of gas, and engineers had sought materials which under the heat of the arc would evolve no vapor. Dr. Slepian of Westinghouse proved it was this very vapor evolution which extinguished the arc, and said the cure for the trouble was some material which would yield maximum volumes of non-explosive vapor. This was found in solid boric acid, which yields water vapor when heated.

Dr. Slepian showing his new fuse with boric acid as the de-ionizing element. It has just interrupted 20,000 amperes at 13,200 volts

From this starting point, Westinghouse engineers developed a fuse which breaks 20,000 amperes at 13,200 volts without arousing any excitement. In the center of a thick-walled cylinder of solid boric acid is a plunger, which would be withdrawn deep into its hole by a spring, were it not held forward by the fuse-wire, which serves as one terminal. When the fuse melts, the arc is drawn down into the boric acid hole where it generates a quantity of water vapor which instantly extinguishes the arc. By special design, the fuse solves the difficult problem of interrupting very small currents as well as large ones.

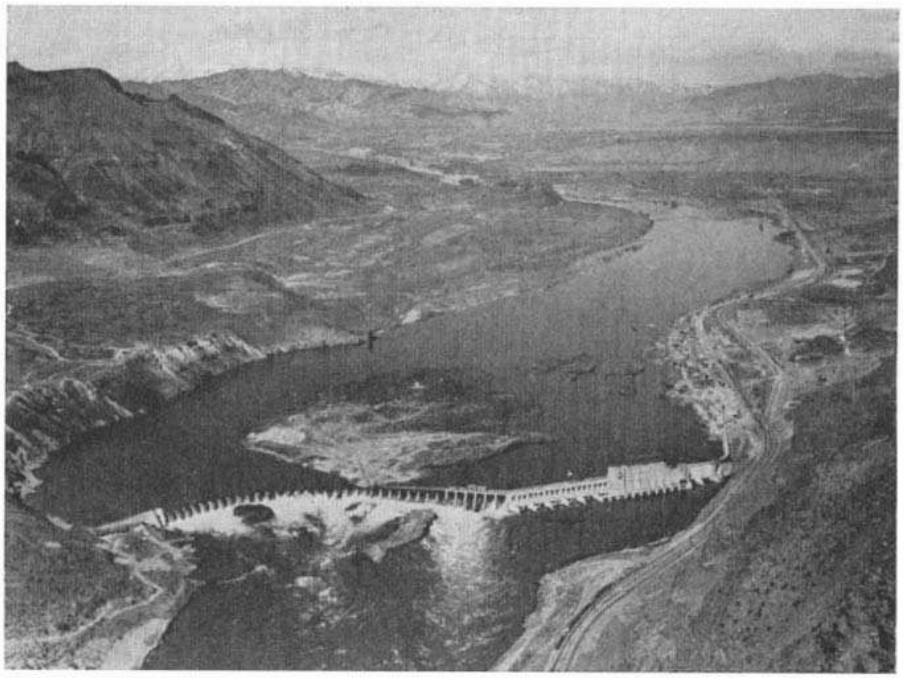
The boric-acid fuse is usually a disappointment to spectators, who are often unable to detect any sign that it has operated. —*A. E. B.*

Reginald A. Fessenden

TRITE phrases of sorrow seem to take on a still greater air of triteness when applied to the recent death in Bermuda at the age of 65 of Professor Reginald Aubrey Fessenden. The world of science, and its radio branch in particular, owes a huge debt of gratitude to this outstanding figure who once, at least, defended a correct theory against others who steadfastly held that he was wrong. But time proved the logic of Fessenden's reasoning about radio wave propagation, and today his theory is universally accepted.

Fessenden's interests were widely varied, and in later years leaned toward the problem of safety of life at sea. He developed the fathometer, distance finder, iceberg detector, radio direction finder, radio compass, gyro-compass and improvements, submarine oscillator for undersea communication, and other devices, for which work he was awarded, in 1929, the *Scientific American* Medal for safety at sea.

Professor Fessenden was born of New England parents in Milton, P. Q., Canada, and received his education at Bishop's College in Quebec. For a time he was associated with Thomas A. Edison, and later with the Westinghouse Electric and Manufacturing Company. A detailed list of his achievements would fill columns, but *Scientific American* feels that it could add but little to the glory of a figure that has left such a lasting impression on the pages of the history of science.



An air view of the completed Rock Island hydroelectric plant, first major power plant on the Columbia River

Old Trick Sells "Fat Reducers"

PROMOTERS of so-called obesity remedies and fat reducers are using an old trick, with a modern slant, to deceive fat people into spending money for worthless and dangerous preparations, according to Dr. F. J. Cullen, of the Federal Food and Drug Administration. The advertisements appeal to the vanity of people and also to the fear that they may become so stout they can no longer be efficient in business.

"Surplus flesh," says Cullen, "may be due to two general causes. First, it may be constitutional, or due to endocrine metabolism or digestive processes, abnormal, but natural to the particular individual. Second, it may be due to eating too much rich or fat-building foods and to a lack of healthful exercise. Reducing might not be a difficult matter in the second case, with correct dieting and exercise. But a person who carries excess weight due to abnormal digestive processes should be extremely cautious about reducing and should do so only under the care of a physician. In either case, one should not trust to indiscriminate use of so-called obesity cures."

Cullen points out that the majority of so-called fat reducers offered for sale con-